IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (ORIGINAL) A method for treating or preventing a CXCR4 mediated pathology comprising:

administering a CXCR4 peptide antagonist to a host in an amount sufficient to inhibit CXCR4 signal transduction in a cell expressing a CXCR4 receptor or homologue thereof, wherein the CXCR4 peptide antagonist is not an antibody or fragment thereof.

2. (ORIGINAL) The method of claim 1, wherein the CXCR4 mediated pathology is cancer.

3. (ORIGINAL) The method of claim 2, wherein the cancer is selected from the group consisting of bladder cancer, breast cancer, colorectal cancer, endometrial cancer, head & neck cancer, leukemia, lung cancer, lymphoma, melanoma, non-small-cell lung cancer, ovarian cancer, prostate cancer, testicular cancer, uterine cancer, cervical cancer, thyroid cancer, gastric cancer, brain stem glioma, cerebellar astrocytoma, cerebral astrocytoma, ependymoma, Ewing's sarcoma family of tumors, germ cell tumor, extracranial cancer, Hodgkin's disease, leukemia, acute lymphoblastic leukemia, acute myeloid leukemia, liver cancer, medulloblastoma, neuroblastoma, brain tumors generally, non-Hodgkin's lymphoma, osteosarcoma, malignant fibrous histiocytoma of bone, retinoblastoma, rhabdomyosarcoma, soft tissue sarcomas generally, supratentorial primitive neuroectodermal and pineal tumors, visual pathway and hypothalamic glioma, Wilms' tumor, acute lymphocytic leukemia, adult acute myeloid leukemia, adult non-Hodgkin's lymphoma, chronic lymphocytic leukemia, chronic myeloid leukemia,

esophageal cancer, hairy cell leukemia, kidney cancer, multiple myeloma, oral cancer, pancreatic cancer, primary central nervous system lymphoma, skin cancer, and small-cell lung cancer.

4. (ORIGINAL) The method of claim 1, wherein the CXCR4 peptide antagonist is TN14003 or a derivative thereof.

5. (Canceled)

6. (ORIGINAL) The method of claim 1, wherein the CXCR4 peptide antagonist inhibits signal transduction by interfering with ligand binding to a CXCR4 receptor or homologue thereof.

7. (ORIGINAL) The method of claim 1, wherein the CXCR4 peptide antagonist specifically binds to CXCR4 receptors and thereby prevents SDF-1α binding.

8. (ORIGINAL) A method of treating cancer comprising administering to a host in need of such treatment a tumor-inhibiting amount of a CXCR4 peptide antagonist, a pharmaceutically acceptable salt or prodrug thereof, wherein the CXCR4 peptide antagonist is not an antibody or antibody fragment.

9. (ORIGINAL) The method of claim 8, wherein the cancer is selected from the group consisting of bladder cancer, breast cancer, colorectal cancer, endometrial cancer, head & neck cancer, leukemia, lung cancer, lymphoma, melanoma, non-small-cell lung cancer, ovarian cancer, prostate cancer, testicular cancer, uterine cancer, cervical cancer, thyroid cancer, gastric cancer, brain stem glioma, cerebellar astrocytoma, cerebral astrocytoma, ependymoma, Ewing's sarcoma family of tumors, germ cell tumor, extracranial cancer, Hodgkin's disease, leukemia, acute lymphoblastic leukemia, acute myeloid leukemia, liver cancer, medulloblastoma, neuroblastoma, brain tumors generally, non-Hodgkin's lymphoma, osteosarcoma, malignant fibrous histiocytoma of bone, retinoblastoma, rhabdomyosarcoma, soft tissue sarcomas generally, supratentorial primitive neuroectodermal and pineal tumors, visual

pathway and hypothalamic glioma, Wilms' tumor, acute lymphocytic leukemia, adult acute myeloid leukemia, adult non-Hodgkin's lymphoma, chronic lymphocytic leukemia, chronic myeloid leukemia, esophageal cancer, hairy cell leukemia, kidney cancer, multiple myeloma, oral cancer, pancreatic cancer, primary central nervous system lymphoma, skin cancer, and small-cell lung cancer.

10. (ORIGINAL) The method of claim 8, wherein the peptide antagonist is TN14003 or a derivative thereof.

11. (Canceled)

12. (ORIGINAL) The method of claim 8, wherein the CXCR4 peptide antagonist inhibits tumor metastasis.

13. (ORIGINAL) The method of claim 8, wherein the CXCR4 peptide antagonist specifically binds to CXCR4 receptors and thereby prevents SDF-1α binding.

14. (ORIGINAL) A method for preventing tumor metastasis in a mammal comprising administering a metastasis inhibiting amount of a CXCR4 antagonist, a pharmaceutically acceptable salt, or prodrug thereof.

15. (ORIGINAL) The method of claim 14, wherein the tumor is a cancer selected from the group consisting of bladder cancer, breast cancer, colorectal cancer, endometrial cancer, head & neck cancer, leukemia, lung cancer, lymphoma, melanoma, non-small-cell lung cancer, ovarian cancer, prostate cancer, testicular cancer, uterine cancer, cervical cancer, thyroid cancer, gastric cancer, brain stem glioma, cerebellar astrocytoma, cerebral astrocytoma, ependymoma, Ewing's sarcoma family of tumors, germ cell tumor, extracranial cancer, Hodgkin's disease, liver cancer, medulloblastoma, neuroblastoma, brain tumors generally, non-Hodgkin's lymphoma, osteosarcoma, malignant fibrous histiocytoma of bone, retinoblastoma, rhabdomyosarcoma, soft tissue sarcomas generally, supratentorial

primitive neuroectodermal and pineal tumors, visual pathway and hypothalamic glioma, Wilms' tumor, acute lymphocytic leukemia, adult acute myeloid leukemia, adult non-Hodgkin's lymphoma, esophageal cancer, kidney cancer, multiple myeloma, oral cancer, pancreatic cancer, primary central nervous system lymphoma, skin cancer, and small-cell lung cancer.

16. (ORIGINAL) The method of claim 14, wherein the CXCR4 antagonist is TN14003 or a derivative thereof.

17. (Canceled)

18. (ORIGINAL) The method of claim 14, wherein the CXCR4 antagonist inhibits tumor metastasis by interfering with ligand binding to a CXCR4 receptor or homologue thereof.

19. (ORIGINAL) The method of claim 14, wherein the CXCR4 antagonist specifically binds to CXCR4 receptors and thereby prevents SDF-1α binding.

20. (ORIGINAL) A method for preventing tumor metastasis in a mammal comprising administering a metastasis inhibiting amount of a CXCR4 peptide antagonist, a pharmaceutically acceptable salt, or prodrug thereof, in combination with a second therapeutic agent, wherein the CXCR4 peptide antagonist is not an antibody.

21. (ORIGINAL) The method of claim 20, wherein the tumor is a cancer selected from the group consisting of bladder cancer, breast cancer, colorectal cancer, endometrial cancer, head & neck cancer, leukemia, lung cancer, lymphoma, melanoma, non-small-cell lung cancer, ovarian cancer, prostate cancer, testicular cancer, uterine cancer, cervical cancer, thyroid cancer, gastric cancer, brain stem glioma, cerebellar astrocytoma, cerebral astrocytoma, ependymoma, Ewing's sarcoma family of tumors, germ cell tumor, extracranial cancer, Hodgkin's disease, leukemia, acute lymphoblastic leukemia, acute myeloid leukemia, liver cancer, medulloblastoma, neuroblastoma, brain tumors

generally, non-Hodgkin's lymphoma, osteosarcoma, malignant fibrous histiocytoma of bone, retinoblastoma, rhabdomyosarcoma, soft tissue sarcomas generally, supratentorial primitive neuroectodermal and pineal tumors, visual pathway and hypothalamic glioma, Wilms' tumor, acute lymphocytic leukemia, adult acute myeloid leukemia, adult non-Hodgkin's lymphoma, chronic lymphocytic leukemia, chronic myeloid leukemia, esophageal cancer, hairy cell leukemia, kidney cancer, multiple myeloma, oral cancer, pancreatic cancer, primary central nervous system lymphoma, skin cancer, and small-cell lung cancer.

22. (ORIGINAL) The method of claim 20, wherein the peptide antagonist is TN14003 or a derivative thereof.

23. (Canceled)

24. (ORIGINAL) The method of claim 20, wherein the CXCR4 peptide antagonist inhibits signal transduction by interfering with ligand binding to a CXCR4 receptor or homologue thereof.

25. (ORIGINAL) The method of claim 20, wherein the CXCR4 peptide antagonist specifically binds to CXCR4 receptors and thereby prevents SDF-1α binding.

26–53 (Canceled)